

Soviet Science

5708. Tsenov, I. New form of equations for analytical dynamics
(in Russian), Dokladi Akad. Nauk SSSR (N.S.) 89, 1, 21-24,
Mar. 1953.

Author presents a new form of dynamical equations

$$\lambda/2(\partial T/\partial q_i - 3\partial T/\partial \dot{q}_i) = Q_i(t + \lambda, \dots, S)$$

for holonomical systems movement. Deduction is simply made from fundamental one, $\sum(-m\ddot{q}_i + P^i)\delta q_i = 0$. A second equation $\partial K/\partial \dot{q}_i = 0$ is derived after introduction of certain functions such as $T_0 = T$ for $T = \sum \frac{1}{2} mV^2$ when q_i are fixed; $R = \frac{1}{2}(T - 3T_0)$; and finally $K = R - Q_i \dot{q}_i$.

① Physics

Applied Mechanics
Reviews, V. 7

Mar. 1954

Mechanics (Dynamics,
Statics, Kinematics).

Equations are extended to anholonomical systems and paper closes with reference to Euler's equations for rigid polar movement, which appear as a consequence of author's. Appel's energetic acceleration is recognized as inspiration source. Author also cites Dohorov's papers, one about Euler's equations, and another dealing with Appel's II_B equations.

Reviewer accepts originality and correctness of this theoretical paper.

J. E. Carrizo Rueda, Argentina

3/23/59

ACCESSION NR: AR4031069

S/0044/64/000/002/B053/B054

SOURCE: Referativnyy zhurnal. Matematika, Abs. 2B149

AUTHOR: Tsenov, I. V.

TITLE: Interpolation by generalized polynomials

CITED SOURCE: Uch. zap. Dagestansk. un-t, v. 10, 1961, 19-23

TOPIC TAGS: Lagrange interpolation formula, Newton interpolation formula, generalized polynomial

TRANSLATION: The author puts together Lagrange and Newton interpolational formulas for the case where the interpolation is accomplished by generalized polynomials, i.e., functions of the type

$$a_1 \varphi_1(x) + a_2 \varphi_2(x) + \dots + a_n \varphi_n(x),$$

where $\varphi_1(x)$, $\varphi_2(x)$, ..., $\varphi_n(x)$ are continuous and linearly independent in the

Card 1/2

ACCESSION NR: AR4031069

segment $[a, b]$. Generalized interpolational formulas with a remainder term are thus obtained. It is shown that the remainder is easily changed to a form which contains n -th order derivatives of the interpolated function $f(x)$ and of the functions $\varphi_1(x), \varphi_2(x), \dots, \varphi_n(x)$ for the value $x = \xi$. All the indicated formulas contain rational functions of certain determinants and are not reduced because of their awkwardness. A. Turetskiy

DATE ACQ: 19Mar64

SUB CODE: MM

ENCL: 00

Card 2/2

TSENDOV, Iv.

Morbidity of rheumatism and of diseases of locomotor organs in industrial workers. Suvrem. med., Sofia 7 no.4:77-86 1956.

1. Iz Medsaanchast Voenna rampa.
(EXTREMITIES, diseases,
in workers (Bul))
(RHEUMATISM, statistics,
in workers (Bul))

OPEN 1.

Glueck-Meck

Mathematical Reviews
Vol. 14 No. 9
October 1953
Mechanics

Canov, I. On some transformations of the equations of motion and on geodesic trajectories of mechanical systems. Doklady Akad. Nauk SSSR (N.S.) 89, 225-228 (1953). (Russian)

CH
P-00-54

TSENOV, I.

"Gauss' Principle of Least Action," Doklady Akad Nauk USSR 89: 415-418, No 3, 1953. (T-2302).

Evaluation B-83873, 28 Mar 55

TSENOV, I.

"New type of garden flowerpot" (p.82) PRIRODA
(Bulgarska Akademija Na Naukite) Sofiya Vol 2 No 6 Nov/Dec 1953

SO: East European Accessions List Vol 2 No 6 Auf 1954

TSEHOV, I.

"Rheumatism in the light of Pavlov's theory" (p.45) PRIRODA
(Bulgaraska Akademiia Na Naukite) Sofiya Vol 3 No 1 Jan/Feb 1954

SO: East European Accessions List Vol 2 No 6 Aug 1954

1. TS NOV, I.
2. USSR (600)
4. Dyes and Dyeing - Chemistry
7. Integro-variational principles of analytical dynamics. Dokl. AN SSSR 89 No. 4, 1953.

9. Monthly List of Russian Accessions, Library of Congress, June 1953. Unclassified.

1. TSENOV, I.
2. USSR (600)
4. Mechanics, Analytic
7. New form of equations for analytical dynamics. Dokl. AN SSSR 89, No. 1, 1953.

9. Monthly List of Russian Accessions, Library of Congress, May 1953. Unclassified.

TSEMOV, I. V. Cand Phys-Math Sci -- (diss) "Certain problems of the theory
of approximation of functions." Mos, 1958. 6 pp (Orsk State Ped Inst.
(Orenburgskaya Oblast)), 130 copies (KL, 13-58, 93)

-14-

27

16(1)

AUTHOR: Tsenov, I.V. SOV/140-59-4-23/26
TITLE: On Some Questions of the Theory of Approximation of Functions
in the Spaces $C[a,b]$ and $L^{(s)}[a,b]$
PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Matematika, 1959,
Nr 4, pp 184 - 197 (USSR)
ABSTRACT: The author generalizes several well-known theorems of the
approximation theory. If $\varphi_0(x), \varphi_1(x), \dots, \varphi_n(x)$ form a
Chebyshev system of order n on $[a,b]$, if $f(x)$ is continuous
there, and if $P_n^*(x) = a_0 \varphi_0(x) + \dots + a_n \varphi_n(x)$, then the
equation $\int_a^b |f(x) - P_n^*(x)|^{s-1} \varphi_i(x) \operatorname{sgn}[f(x) - P_n^*(x)] dx = 0,$
 $i = 0, 1, \dots, n$ is necessary and sufficient that the polynomial
 $P_n^*(x)$ gives a minimum to the integral $\int_a^b |f(x) - P_n^*(x)|^s dx$, $s > 1$.
Card 1 / 3 For $s > 1$ there exist $n + 2$ points $a < x_0 < x_1 < \dots < x_{n+1} < b$,

On Some Questions of the Theory of Approximation SOV/140-59-4-23/26
of Functions in the Spaces $C[a,b]$ and $L^{(s)}[a,b]$

such that $\operatorname{sgn}[f(x_i) - P_n^*(x_i)] \operatorname{sgn}[f(x_{i+1}) - P_n^*(x_{i+1})] = -1$,

$i = 0, 1, \dots, n$. The equation $f(x) - P_n^*(x) = 0$ has at least
 $n+1$ root on (a,b) . If $|f^{(n+1)}(x)| < |\varphi^{(n+1)}(x)|$ on (a,b) ,

then it holds $I_n^{(s)}(f) < I_n^{(s)}(\varphi)$, where $I_n^{(s)}(f) =$

$= \min_{P_n} \int_a^b |f(x) - P_n(x)|^s dx$ and P_n is an arbitrary algebraic

polynomial of at most order n . In the space $L^{(s)}$ there holds

the formula $I_n^{(s)}(f) / I_n^{(s)}(\varphi) = |f^{(n+1)}(\xi)|^s / |\varphi^{(n+1)}(\xi)|^s$.

Some further similar results are given. S.N. Bernshteyn,

Card 2/3

28

On Some Questions of the Theory of Approximation SOV/140-59-4-23/26
of Functions in the Spaces $C[a,b]$ and $L^{(s)}[a,b]$

S.M. Nikol'skiy and M.G. Kreyen are mentioned in the paper.
The author thanks S.B. Stechkin, S.I. Zukhovitskiy and V.S.
Videnskiy for valuable suggestions.
There are 12 references, 10 of which are Soviet, 1 American,
and 1 German.

ASSOCIATION: Orskiy pedagogicheskiy institut (Orsk Pedagogical Institute)

SUBMITTED: June 2, 1958

Card 3/3

"APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001757010002-8

Source: Mathematical Reviews

Vol. 57 No. 6

APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001757010002-8"

Book:

Author: Tsenov, Ivan

Title: A Collection of Problems and Solutions in Analytical Mechanics

Publishing Data: 1950, Sofia, 504 pages

Available: E. E. A. L., February, 1952.

7/19/55

7/19/55

TSENOV, I.

"General Theorems For The Movement of Solid Bodies Toward A System of Mobile Coordinates." p. 33 (GODISHNIK, MATEMATIKA I FIZIKA, Vol. 47, no. 1, pt. 2, 1950/51-1951/52, Sofiya.)

SO: Monthly List of Russian Accessions, Library of Congress, Vol. 3, No. 3, March 1954, Uncl.

TSENOV, I.

"Determining The Translation and Rotation of a Solid Body When the Velocities of Three Points of the Body are Given." p.59 (GODISHNIK, MATEMATIKA I FIZIKA, Vol. 47, no. 1, pt. 2, 1950/51-1951/52, Sofiya.)

SO: Monthly List of Russian Accessions, East European Vol. 3, No. 3 Library of Congress, March 1954
1953, Uncr.

TSENOV, I.

"Determining the Inner Forces of a Hard Object in Equilibrium Which Does Not Deform Itself by the Action of Forces." p.75 (Godishnik, Matematika I Fizika, Vol. 47, No. 1, 1950/51-1951-52, Sofiya)

SO: Monthly List of East European Accessions, Vol. 3, No. 3, Library of Congress,
March, 1954, Uncl.

TSENOV, I.

11 Mar 53

Bulgaria/ Mathematics - Equations of Motion

"Certain Transformations of the Equations of Motion, and Geodetic Trajectories of Mechanical Systems," I. Tsenov, Active Member, Bulgarian Acad Sci

DAN SSSR, Vol 89, No 2, pp 225-228

Continuation of previous article (DAN SSSR 89, No 1 (1953)) concerning a system with linear non-holonomous relations in the eqs of motion. Derives eq of geodetic lines in space. Presented by Acad A. I. Nekrasov. Recd 17 Nov 52.

Source #264T90

TSENOV I.

USSR/Mathematics - Equations of
Motion

21 Mar 53

"Gauss' Principle of Least Constraint," I. Tsenov,
Bulgarian Acad Sci

DAN SSSR, Vol 89, No 3, pp 415-418

Demonstrates that subject principle can be
derived from equations of motion presented in
previous work of author (cf. ibid. 89, 1,
(1953)). Presented by Acad A. I. Nekrasov
19 Mar '51.

272P62

TSENOV, I.

"Device for Fast Measuring of Length." p. 22,
(RATIONALIZATSIIA, Vol. 4, No. 9, Sept. 1954, Sofiya, Bulgaria)

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 4
No. 5, May 1955, Uncl.

TSENOV, I.

Equation of analytic dynamics. p. 1. (GODISHNIK. MATEMATIKA I FIZIKA,
Vol. 49, No. 1, 1954/55 (published 1956), Sofia, Bulgaria)

SO: Monthly List of East European Accessions (EEAL) LC, Vol. 6, No. 9, Sep 1957. Uncl.

TZENOFF, I. [Tsenov, I.]

Principle of the least action. Doklady BAN 16 no.5:461-464 '63.

TZENOFF, I. [TSenov, I.]

A new demonstration of the Ostrogradskiy-Hamilton principle for the
holonomic and nonholonomic systems. Doklady BAN 15 no.1:13-16 '62.

44808

S/044/63/000/001/009/053
A060/A000AUTHOR: Tsenov, I. V.TITLE: Generalization of the problem on the best approximation of a function in L^s spacePERIODICAL: Referativnyy zhurnal, Matematika, no. 1, 1963, 20, abstract 1B98
(Uch. zap. Dagestansk. un-t, 1961, v. 7, no. 25 - 37)TEXT: Let $a \leq x \leq b$
$$I(a_0, a_1, \dots, a_n) = \int_a^b p(x) |f(x) - P_n(x)|^s dx,$$
where $P_n(x)$ is a polynomial composed of the functions $\varphi_0, \varphi_1, \dots, \varphi_n$ (with the coefficients a_0, a_1, \dots, a_n , respectively) linearly independent of $[a, b]$; $p(x), f(x)$ and $s(x)$ are continuous on $[a, b]$, $p(x) > 0$, $s(x) > 1$. The necessary and sufficient condition is established for the polynomial $P_n^*(x)$ to realize a minimum of the integral (1), and a theorem is proven analogous to a theorem of Chebyshev: If a polynomial $P_n^*(x)$ realizes a minimum of the integral (1),

Card 1/3

Generalization of the problem on the best approximation.. A060/A000
 S/044/63/000/001/009/053

where $P_n^*(x)$ is composed of functions $\varphi_0, \varphi_1, \dots, \varphi_n$, forming a Chebyshev system, and $s(x) > 1$, then it is possible to find $n + 2$ points: $a < x_0 < x_1 < \dots < x_{n+1} < b$, such that

$$\text{sign}[f(x_i) - P_n^*(x_i)] \cdot \text{sign}[f(x_{i+1}) - P_n^*(x_{i+1})] = -1 \quad (i = 0, 1, \dots, n).$$

A generalization is also given of a theorem of Shohat: if the functions $f(x)$ and $\varphi(x)$ are continuous on $[a, b]$, have derivatives of the $(n + 1)$ -th order in (a, b) and $\varphi^{(n+1)}(x)$ does not become zero in (a, b) , then for some $\xi \in (a, b)$ the equality

$$\frac{I_n(s)(f)}{I_n(s)(P)} = \frac{|f^{(n+1)}(\xi)| s(\xi')}{|\varphi^{(n+1)}(\xi)| s(\xi')} \quad (\xi' \in [a, b]),$$

is realized, where

Card 2/3

Generalization of the problem on the best approximation. A060/A000 S/044/63/000/001/009/053

$$I_n^{(s)}(\psi) = \min_{P_n} \int_a^b |\psi(x) - P_n(x)|^s dx,$$

[Abstracter's note: Complete translation]

V. I. Gukevich

Card 3/3

TSENOV 1.

- 181
- 1974, ZOLOGICHESKAYA AKADEMICHESKAYA VESNKA, Vol. 15, No. 1, 1968
1. "Concerning a Colloidal Problem," D. SUDOV; article in German; pp 5-8.
 2. "Concerning a Class of Equations in Analytical Mechanics and Series of the Functions of I. Tsenov," D. MUSATOV and S. DZIGU; article in Russian; pp 9-11.
 3. "A New Proof of the Ostrogradski-Hamilton Principle for Holonomic and Nonholonomic Systems," I. TSENOV; article in French; pp 11-16.
 4. "Extended Symmetry under Powerful and Electromagnetic Interaction," P. R. ZYKOV; article in English; pp 17-20.
 5. "Profile of the Wind in the Layer of Air Close to the Earth under Conditions of Unstable Equilibrium," D. KERKOV and L. KRISTANOV; article in Russian with summary in English; pp 21-24.
 6. "A Criterion for Reionization and Ionizing Radiation in the Layer of the Ionosphere According to Observations during Solar Eclipses," U. S. KISYODOROV and J. TAUERNIK; article in German; pp 25-28.
 7. "Concerning the Solution of a System of Ordinary Linear Differential Equations of the Second Order as Applied in Oceanography and Meteorology," P. R. ZYKOV; article in Russian with English summary; pp 29-32.
 8. "Glass Formation in an Na₂-CO₃-Na₂O-Al₂O₃-SiO₂ System," M. MARINOV, I. S. VODENICHAROV, and T. ZHUKOV; article in German; pp 33-37.
 9. "The Discovery of Several Acids formed during the Thermal Decay of Cellulose Acetate by Means of Paper Chromatography," A. BOGDANOV and I. TSENOV; article in Russian with English summary; pp 37-40.
 10. "Concerning the Fatty Acid Content in the Oil of Several Species of the Genus *Filumena*," A. BOGDANOV; article in Russian with English summary; pp 41-44.

— 1/3 —

24.4100

15737
S/124/62/000/003/004/052
D237/D301AUTHOR: Tsenov, Iv.

TITLE: Applying new equations of analytical dynamics to the motion of rigid bodies

PERIODICAL: Referativnyy zhurnal, Mekhanika, no. 3, 1962, 13, abstract 3A89 (Izv. Matem. in-t B'lg. AN., 1960, 4, no. 2, 81 - 137)

TEXT: In 1954, the author derived and formulated new equations of analytical dynamics which contained the 2nd derivative of kinetic energy of the system with respect to time:

$$\frac{1}{2} \frac{\delta \ddot{T}}{\delta \ddot{q}_i} = \frac{\delta \delta \tau}{\delta \delta q_i} \quad (i = 1, 2, \dots, s). \quad (1)$$

The function $\delta \tau$ in the R.H.S. expresses the sum of elementary work of all active forces of the system and of the forces, whose force function represents the kinetic energy of the system and which is dependent only on time and on generalized coordinates

Card 1/2

Applying new equations of ...

S/124/62/000/003/004/052
D237/D301

$$U(q_i; t) = T(q_i; t/\dot{q}_i). \quad (2)$$

The formulated equations are also applicable to the systems with linear non-holonomic restraints. The content of the problems of rigid body dynamics which can be investigated by means of the given equations is presented. [Abstractor's note: Complete translation].

Card 2/2

TSENOV, Iv.

Application of the new equations of analytic dynamics in the relative motion of solids. Izv mat inst BAN 4 no.2:81-137 '60.
(EEAI 10:9)

(Body of revolution)

VULEV, Vulo, kandidat na tekhnicheskite nauki; PETKOV, Elagoi inzh.;
BOIADZHIEV, Krum inzh.; TSENOV, Khristo, inzh.

Question of selecting the carburetor diffusor which will provide
maximum feeding of a gas motor. Tekhnika 10 no.10:12-14 '61.

TSENOV, L.

Improving the vacuum installations in the canning industry.
p. 34. LEKA PROMISHLENOST. (Ministerstvo na lekata i
khranitelnata promishlenost) Sofiia. Vol. 5, No. 4, 1956

SOURCE: East European Accessions List (EEAL) Library of
Congress, Vol. 5, No. 11, November 1956

TSENOV, L.

New models of crates for circulating use in the canning industry.
p.41. LEKA PROMISHLENOST. (Ministerstvo na lekata i khronitelnata
promishlenost) Sofiia. Vol. 5, no. 6, 1956

SOURCE: East European Acquisitions List, (EEAL), Library of
Congress, Vol. 5, no. 12, December 1956

TSENOV, L.

TSENOV, L. Production of specially-sifted salt for tomato puree, triple concentrate. p. 23. Vol. 5, no. 8, 1956 ELEKTROENERGIIA. Sofiia, Bulgaria

SOURCE: East European Accessions Lists (EEAL) Vol 6, No. 4--April 1957

SAVCHEV, S.; TSENOV, Ts.

Pay according to quality in the knitting industry. Trud tseni 4 no.53
55-62 '62.

TSENOV, TS.

"Balanced accounts with all enterprises"

Otchetnost I Kontrol V Selskoto Stopanstvo. Sofiia, Bulgaria. Vol. 3, no. 8, 1958

Monthly list of East European Accessions (EEAI), LC, Vol. 8, No. 6, Jun 59, Unclassified

TSENKOV, TS.; SHARKOV, L.

Gasification of the coal from the East Maritsa basin in gas generators with a roasting stratum. p. 3.

GODISHNIK. Nauchnoizsledovatelski institut za tekhnologiki izsledvaniia na gorivata. Sofia, Bulgaria. Vol. 3, no. 3, 1958.

Monthly List of East European Accessions (EEAI) LC, Vol. 9, No. 2, Feb. 1960
UNCL

TSENKOV, Ts.; DZHAMBOV, J.; PANKOV, G.

Semicoking brown coal from the Black Sea mine. p. 205.

Sofia. Nauchnoizsledovatelski institut za tekhnolognki izsledvaniia na gorivata. GODICHNIK. Sofiia, Bulgaria. Vol. 4, 1959

Monthly List of East European Accesions (EEAI), LC, Vol. 8, No. 12,
December 1959
Uncl.

TSENKOV, Ts.; DZHAMBOV, G.; PANKOV, G.

Semicoking lignite from the Gabra basin (Chikurovo) p. 233

Sofia. Nauchnoizsledovatelski institut za tekhnolognki izsledvaniia na gorivata. GODICHNIK. Sofiia, Bulgaria. Vol. 4, 1959

Monthly List of East European Accessions (EEAI), LC, Vol. 8, No. 12,
December 1959
Uncl.

TSENKOV, Ts.; PANKOV, G.

Technical and economic evaluation of the methods for thermochemical processing of the lignite coal from Maritsa Iztok. p. 67

Sofia, Nauchnoizsledovatelski institut za tekhnolognki izsledvaniia na gorivata. GODICHNIK. Sofiia, Bulgaria. Vol. 4, 1959.

Monthly List of East European Accessions (EEAL), LC, Vol. 8, No. 12,
December 1959
Uncl.

LUKANOV A.; TSENOV, Ts.

Ileus and its therapy. Khirurgiia, Sofia 8 no.1:10-21 1955.

1. Institut za burza meditsinska pomoschch "N. I. Pirogov" -
Sofia. Glaven lekar: B. Devetakov. Glaven Khirurg: Al. Lukanov.
(INTESTINAL OBSTRUCTION, surgery)

TSENOV, V.

"New rationalization measures in the agricultural economy."

p. 5 (Ratsionalizatsiia, Vol. 7, no. 2, Feb. 1957, Sofiia, Bulgaria)

Monthly Index of East European Accessions (EEAI) LC, Vol. 7, No. 8, August 1958

TSENOV, V.

"Mechanical Sink for Washing Machine Parts", P. 21, (RATIONALIZATSIIA,
Vol. 3, No. 10/11, Oct./Nov. 1953, Sofiya, Bulgaria)

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 3, No. 12,
Dec. 1954, Uncl.

SKVANIK, V.P. [Skvaryk, V.P.]; STEBLINA, I.Z. [Steblyna, I.Z.]; TSENOVA, L.V.

Roller lasting machines. Leh.prom. no.4:7-11 O-D '62. (MIRA 16:5)

1. Kiyevskiy tekhnologicheskiy institut legkoy promyshlennosti.
(Shoe machinery)

SKVARIK, V.P.; TSENOVA, L.V.

Cementing of soles. Kozh.-obuv.prom. 5 no.5:24-26 My '63.
(Shoe manufacture) (MIRA 16:5)
(Rubber goods)

TSENOVA, Anka, inzh.

Complex utilization of water resources. Khidrotekh i melior
9 no.10:290-292 '64.

TSENOVA, A., inzh.; PAVLOW, P., inzh.; RAIKOV, R., inzh.

The Dospat-Krichim waterfall. Elektroenergiia 14 no.2:1-7
F '63.

TSENOVA, P.

"Strong financial discipline on the cooperative farm."

p. 193 (Otchernost I Kontrol Na Selskoto Stopanstvo, Vol. 3, No. 5, 1958,
Sofia, Bulgaria).

Monthly Index of East European Accessions (EEAI) LC, Vol. 7, No. 12, Dec. 58.

TSENOVA, P.

Planning expenditures and income of cooperative fams. p. 26.

Vol. 10, no. 11, Nov. 1955
KOOPERATIVNO ZEMEDELIE
Sofiya, Bulgaria

So: Eastern European Accession Vol. 5 No. 1 Jan. 1956

TSENTA, Ye.L.; KACHER, V.A.; DUDKO, P.D.

Lapping parts made of 4Kh13 steel with abrasive dusts. Trudy
4Kh13 steel with abrasive dusts. Trudy KhPI 21 Ser.met. no.4:
73-76 : 59. (MIRA 14:7)

(Grinding and polishing)

DUDKO, P.D.; TSENTA, Ye.L.; KACHER, V.A.

Lapping with oscillation of the lap and continuous feed of
abrasives. Stan.1 instr. 29 no.12:26-27 D '58. (MIRA 11:12)
(Grinding and polishing)

L 03518-67 EWT(d)/EWT(m)/EWP(c)/EWP(v)/EWP(t)/ETI/EWP(k)/EWP(h)/EWP(l) IJP(c) JD
ACC NR: AM6019451 Monograph

Lyapunov, Mikhail Aleksandrovich (Candidate of Technical Sciences); Tsenta, Yevgeniy Leonidovich (Candidate of Technical Sciences); Yufa, Engel' Pavlovich (docent) 23
31

Electric pulse machining of tough metals and alloys (Elektroimpul'snaya obrabotka vysokoprochnykh metallov i splavov) Kiev, Izd-vo "Tekhnika", 65. 0149 p. illus., biblio. 2,500 copies printed.

TOPIC TAGS: metal finishing, metalworking; machinery, electric metal finishing, high strength metal, high strength alloy, precision finishing

PURPOSE AND COVERAGE: This book gives the principles of electric pulse working of parts made from tough metals and alloys. Also presented is the technology of finishing sectional surface, production and reconditioning of rigging equipment. The equipment for electric pulse working (fuel supply, machinery) is described, and recommendations are made for its use. The book is considered useful to technical engineers dealing with problems in the technical preparation of the production of machine construction courses in technical institutes.

TABLE OF CONTENTS (abridged):

Preface—5
Ch. I. Main points and electrotechnical characteristics of electric pulse working—7
Ch. II. Equipment for electric pulse working—21

Card 1/2

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ACC NR: AM6019451

2

Ch. III. Principles of the technology of electric pulse working--46

Ch. IV. Precision and quality of the surface of parts finished by electric pulse
methods--76

Ch. V. Electric pulse working of sectional surfaces, production and reconditioning
of technological rigging equipment--86

refractory metals 18

Bibliography--143

SUB CODE: 09 SUBM DATE: 29Oct65/ ORIG REF: 028

TSEN - 7, YE - 4.

123-1-775-D

Translation from: Referativnyy Zhurnal, Mashinostroyeniye, 1957,
Nr 1, p. 117 (USSR)

AUTHOR: Tsenta, Ye. L.

TITLE: Investigation in Finishing Parts for Machines by Super-finishing Method(Issledovaniye okonchatel'noy obrabotki detaley mashin metodom sverkhodelki)

ABSTRACT: Bibliographic entry on the author's dissertation for the degree of Candidate of Technical Sciences, presented to the Khar'kov Polytechnical Institute, (Khar'kovsk. politekhn.in-t) Khar'kov.

ASSOCIATION: Khar'kov Polytechnical Institute (Khar'kovsk, politekhn. in-t)

Card 1/1

56-34-4-3/60

AUTHORS: Khatskevich, M. V., Tsenter, E. M.

TITLE: The Yield of Electrons on the Action of γ -Quanta (Vyhod elektronov pod deystviyem γ -kvantov)

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1958,
Vol. 34, Nr 4, pp. 807 - 810 (USSR)

ABSTRACT: This work determines experimentally and mathematically the absolute yield of electrons from an aluminum target on the action of γ -quanta with the energy 2,62 MeV. In the case of the presence of data on the relative yields the determination of the relative yield for any certain material at one single energy of the γ -quanta is sufficient to be able to go over to the absolute values for the other materials and energies. It is this problem that forms the subject of the present paper. As target material aluminum was chosen and the yield of electrons for the hard component of the radiation of ThC" (2,62 MeV) was chosen. First the authors discuss the computation of this yield. By this way for the quantity of the electrons per quantum of the energy impinging upon the target

Card 1/3

56-34-4-3/60

The Yield of Electrons on the Action of γ -Quanta

the value $\eta = 1,6 \cdot 10^{-2}$ electrons per γ -quantum is found. For the experimental production of η a special counter tube of aluminum was made; its construction is illustrated by a figure. Another figure gives a survey of the whole experimental arrangement. The performance of the experiment shortly is described. 3 measuring series with repeated reading of the background and of the effect are performed. Between these measuring series the device always was adjusted anew. In these measurements the value $\eta = 1,3 \pm 0,2 \cdot 10^{-2}$ electrons per quantum was obtained. On this occasion it was assumed that only quanta with the energy 2,62 MeV are acting. The measured quantity satisfactorily agrees with that computed. Starting from this quantity and from the data by G. I. Hine (Refs 7, 8) e.g. the absolute values of the yields of electrons per quantum (with the energy 2,62 MeV) can also be computed for other materials. The corresponding values found by H. Bradt et al. (Ref 8) are 1,6 to 2,4 times as high as the values found in this work; the quite intelligible reasons for this are shortly discussed. There are 4 figures, 1 table, and 13 references, 1 of which is Soviet.

Card 2/3

The Yield of Electrons on the Action of γ -Quanta

56-34-4-3/60

SUBMITTED: October 5, 1957

1. Gamma radiation--Analysis 2. Electrons--Measurement

Card 3/3

TSEENTER, E.M.

A nomogram for exponential function differences. Atom.energ. b
no.1:91 Ja '58. (MIRA 11:4)
(Nomography (Mathematics) (Functions, Exponential))

KHATSKEVICH, M.V.; TSENTER, E.M.

Yield of electrons due to the action of gamma quanta [with summary
in English]. Zhur. eksp. i teor. fiz. 34 no.4:807-810 Ap '58.

(Electrons) (Gamma rays)

(MIRA 11:5)

"APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001757010002-8

SECRET//~~SIM~~

APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001757010002-8"

15 & M / T R, L., //).

AUTHOR:

Tsenter, E.M.,

89-1-18/29

TITLE:

Nomogram for the Detection of Differences of Exponential Functions (Nomogramma dlya nakhozhdeniya raznostey eksponentsiyal'nykh funktsiy)

PERIODICAL: Atomnaya Energiya, 1956, Vol. 4, Nr 1, pp. 91-91 (USSR)

ABSTRACT: For the functions a) b)

$$(1-e^{-\ln 2 \frac{t_1}{T}})e^{-\ln 2 \frac{t_2}{T}} \text{ and } (e^{-\ln 2 \frac{t}{T_1}} - e^{-\ln 2 \frac{t}{T_2}})$$

a nomogram is given and 2 explanatory examples are mentioned.
In the first case it is assumed that in the function a)

$$\frac{t_1}{T} = 2,7 \quad \text{and} \quad \frac{t_2}{T} = 1,9 \quad \text{and in the second case in function b)}$$

$$\frac{t}{T_1} = 3,7 \quad \text{and} \quad \frac{t}{T_2} = 6,9$$

The abscissa is $\frac{t}{T}$, the ordinate $e^{-\ln 2 \frac{t}{T}}$

There is 1 figure.

Card 1/2

Nomogram for the Detection of Differences of Exponential Functions. 89-1-18/29

SUBMITTED: July 11, 1957

AVAILABLE: Library of Congress

Card 2/2

TSEENTER, E.M.; SILIN, A.B.

Yield of the (α , n) reaction as dependent on the alpha particle energy.
Atom. energ. 19 no.1:48-50 Jl '65.
(MIRA 18:7)

L 10071-63 EPF(c)/EWT(a)/EPF(n)-2/BDS--AFFTC/ASD/8SD--Pr-4/pu-4
ACCESSION NR: AR3000346 S/0058/63/000/004/A042/A042

SOURCE: RZh. Fizika, Abs. 4A346

AUTHOR: Tsenter, E. M.; Kosolapov, M. G.; Goleva, V. I. 64

TITLE: Spark counter for the control of Alpha contamination of external surfaces
of polonium-beryllium neutron sources 19

CITED SOURCE: Sb. rabot po nekotorym vopr. dozimetrii i radiometrii ionizir.
izlucheniya. Vyp. 2. M., Gosatomizdat, 1961, 249-257

TOPIC TAGS: Spark counters, Alpha particles, air or argon filled

TRANSLATION: The construction is described of a spark detector of the well type with a measurement geometry close to 4 Pi, intended for the determination of the degree of Alpha contamination of the exterior surfaces of Po-Be neutron sources. The detector is a combination of a cylindrical and end-window counter, connected to form a single structure. The cylindrical counter consists of a cylinder (cathode) 70 mm. in diameter, 2 rings, an insulator, and 72 tungsten filaments

Card 1/2

L 10071-63
ACCESSION NR: AR3000346

0

0.06 mm. in diameter (anode), stretched at a distance of 1.2 mm. from the inside surface of the cylinder, parallel to its generatrix. The end-window counter consists of a flat round disk (cathode), inserted in a Plexiglas mount, and 30 tungsten filaments (anode) 0.60 mm. in diameter. The gap between the filaments and the disc amounts to 1.2 mm. Both counters are secured to a Plexiglas disc, placed in a metallic housing, and operate independently of each other. The main operating characteristics of the counter are presented for both atmospheric air and argon as a filler. The counting efficiency for Alpha particles and neutrons are respectively 3 and 0.00011% for air and 12 and 0.00004% for argon. The described spark counter can be used successfully for the registration of Alpha particles against an intense background of Beta and Gamma radiation.

DATE ACQ: 14May63 ENCL: 00

SUB CODE: PH

1m/jja
Card 2/2

PHASE I BOOK EXPLOITATION SOV/6093

Ardashnikov, S. N., S. M. Gol'din, A. V. Nikolayev, L. S. Ruzer,
and E. M. Tsenter

Zashchita ot radioaktivnykh izlucheniy (Protection From Radioactive
Radiation). Moscow, Metallurgizdat, 1961. 420 p. Errata
slip inserted. 5450 copies printed.

Ed. (Title page): A. V. Nikolayev, Corresponding Member, Academy
of Sciences USSR; Reviewer: I. V. Petryanov-Sokolov, Corresponding
Member, Academy of Sciences USSR; Ed.: M. S. Arkhangel'skaya;
Tech. Ed.: M. K. Attopovich.

PURPOSE: This book is intended as a textbook for students at vuzes
for mining and metallurgy and other special fields associated
with the use of radioactive isotopes and radiation, and also
for engineers, technical personnel, and biologists.

COVERAGE: Problems of protection from radioactive radiation are con-
sidered from the physical, chemical, and biological points of
view. Industrial electronic dosimeters and methods for their
Card 1/~~✓~~

Protection From Radioactive (Cont.)

SOV/6093

use are described. Some basic principles of nuclear physics and electronics are included. The material is divided into two parts: "Physical and Biological Means of Protection From Nuclear Radiation" and "Dosimetric Measurements". Section I of the first part was written by E. M. Tsenter, Doctor of Technical Sciences. It presents a series of problems in determining dosage and the design of shielding from external irradiation. Chapters 1 to 5 of Section II, first part, were written by S. N. Ardashnikov, Candidate of Medical Sciences, and describe biological means of protection from radiation and the rules for working with radioactive substances. Chapter 6 of Section II, first part, was authored by A. V. Nikolayev; it gives numerical estimates of the danger in working with specific unshielded radioactive preparations. Some special concepts are introduced which may be useful for the study of protection from internal irradiation while working with unshielded preparations (radiovolatility, safe and suitable concentrations, etc.). Section I of the second part was written by S. M. Gol'din, Candidate of Technical Sciences, and contains fundamentals of electronics and a description of

Card 2/10

Protection From Radioactive (Cont.)

SOV/6093

dosimetric instruments. The author of Section II of the second part is L. S. Ruzer. The authors thank I. V. Petryanov-Sokolov, Corresponding Member, Academy of Sciences USSR, for his assistance. There are 55 references: 50 Soviet (7 of which are translations) and 5 English.

~~TABLE OF CONTENTS:~~

Preface

7

FIRST PART. PHYSICAL AND BIOLOGICAL MEANS OF PROTECTION
FROM NUCLEAR RADIATIONSECTION I. Brief Review of Nuclear Physics and the Physical
Means of Protection from External Irradiation

Ch. 1. The Atomic Nucleus and Nuclear Transformations	9
Ch. 2. Interaction Between Radioactive Radiation and Matter	21
Card 3/10	

TSEENTER, E.M.; KHABAKHPASHEV, A.G.; PIRKIN, I.A.

Gamma rays from the neutron source Po-- 18 . Zhur.eksp.i teor.
fiz. 37 no.4:1133-1134 0 '59. (MIRA 13:5)
(Gamma rays) (Polonium)

KHABAKHPASHOV, A.G.; TSEENTER, E.M.

Measurement of the lifetime of the first excited state of Ne²¹.
Zhur.eksp.i teor.fiz. 37 no.4:991-993 '59.
(MIRA 13:5)

(Neon—Isotopes)

TSENTERI, E.M.

PLATE I BOOK INFORMATION

SERV/399

Norman Radiobiological Institute: 1. dosimetry; chemical methods [Collection of Radio-Chemical and Dosimetric Methods]. Moscow, Naukova Dumka, 1979. 459 p. Errata 1979. 1979. 9,000 copies printed.

Eds. (first part): I.J. Oserer, J.Z. Karpelis, A.M. Maryn, R.M. Poroshko, V.L. Shulmanov, Yu.M. Tsvetkov. (Final book): V.I. Labzovskii, Tech. Ed.: A.I. Zabotin.

PURPOSE: This collection of articles is intended for physicians, sanitarians and public health doctors, chemists and other specialists working in radioactive dosimetry.

CONTENTS: This work discusses the following subjects: (1) principles of organizing sanitization and dosimetric control in institutions where work is carried on with radioactive substances; (2) radio-chemical and chemical methods for determining certain radioactive substances in samples of air, water, soil and foodstuffs; (3) physical methods of measuring contamination by air or radioactive gases and aerosols, and methods for determining the level of contamination of working clothes and leather coverings; (4) methods of measuring external sources of X- and gamma-radiation and methods of measuring the activity of solid and liquid radioactive sources. There are four appendices dealing with methods of calculating the total dosage from sources of ionizing radiation under conditions of doses from natural (background) radioactivity in the calcium or potassium. Sanitary regulations observed during transportation, storage and handling of radioactive substances are discussed, as well as the permissible levels of ionizing radiation. The editors thank Yu.V. Sviridov and D.P. Butinov. References appear at the end of each chapter.

Ch. VIII. Methods of Individual Dosimetric Monitoring	329
Introduction (Yu.M. Poroshko)	329
1. Individual post-operative monitoring (the IPE method)	329
(Yu.M. Poroshko and A.S. Pashin)	329
2. Individual monitoring of gamma-ray and thermal-neutron sources (the ITN method) (I.B. Solntsev, I.A. Polozov)	321
3. Individual dosimetric monitoring with -thallium ionization chambers (the ITC method) (K.S. Kargin and Yu.M. Shulmanov)	324
4. Individual biomonitoring monitoring (the IBI method) (Z.B. Kotin-Buksha and M.S. Poroshko)	320
5. Survey of results of individual monitoring	328

Recommended literature

Ch. IX. Absorbed and Relative Methods of Measuring the Activity of Solid and Liquid Radioactive Sources	326
Introduction (Yu.M. Poroshko)	326
1. Corrections in measuring activity with counters	326
(K.M. Prokof'ev)	326
2. Measuring the activity of beta-radioactive sources with scintillation counters (E.A. Trubnikov)	326
(Y.K. Lernachkin)	326
3. Measuring the specific activity of thick samples	326
(Y.K. Lernachkin)	326
4. The radio method of determining the specific activity of radioactive substances in irradiated metals (Yu.O. Oserer)	329
5. The autoradiometric method of determining small concentrations of radioactive substances in aqueous solutions (Yu.O. Oserer, Yu.N. Kondratenko, Yu.N. Kondratenko and N.G. Tsvetkov)	329
6. The radiometric method of determining beta-active isotopes in mixtures (A.A. Tsvetkov and N.M. Anufrieva)	329
Recommended literature	325
Appendices	420
I. Sanitation Regulations During Transportation, Storage and Handling of Radioactive Substances	420
II. Technique of Calculating the Total Doses From the Combined Effects of Ionizing Radiations (M.O. Oserer)	424
III. Units of Activity and Doses (Yu.O. Oserer)	429
IV. Natural Radioactive Calcium in Foodstuffs	429
V. Symbols and Abbreviations	436
AVAILABILITY: Library of Congress	
Carl H/JL	

ARDASHNIKOV, S.N., kand. med. nauk; GOL'DIN, S.M., kand. tekhn. nauk;
NIKOLAYEV, A.V.; RUZER, L.S.; TSEENTER, E.M., doktor tekhn. nauk;
PETRYANOV-SOKOLOV, I.V., retsenzenter; ARKHANGEL'SKAYA, V.S., red.
izd-va; ATTOPOVICH, M.K., tekhn. red.

[Radiation protection] Zashchita ot radioaktivnykh izluchenii. Mo-
skva, Gos. nauchno-tekhn. izd-vo lit-xy po chernoi i tsvetnoi metal-
lurgii, 1961. 420 p.
(MIRA 14:11)

1. Chlen-korrespondent AN SSSR (for Nikolayev, Petryanov-Sokolov).
(Radioisotopes--Safety measures) (Radiation protection)

TSE N T E R, E. M.

21(6) 21(7) 307/69-7-2-14/24
Ivanova, V. I., Masarov, A. I., Polunskaya, Ye. V., Shabash-
peter, A. G., Zemtsov, K. M.
ARTICLE: Use of the O^{18} ($\text{O}, \text{n}, \text{He}^+$) Reaction to Determine the Concentration
of Active Substances in Aqueous Solutions (ispol'sovaniye reaktsii
 O^{18} ($\text{O}, \text{n}, \text{He}^+$) 21 dlya opredeleniya koncentratsii aktivnykh
veshchestv v vodnykh rastvorakh)

PUBLICATIONAL: Atomnaya energetika, 1959, Vol. 7, No. 2, pp. 166 - 168 (USSR)

ABSTRACT: The method mentioned in the title was first proposed by Ye. V. Polunskaya and A. I. Masarov. A neutron detector is installed in a cylindrical pipe placed at the bottom and located in a cylinder-shaped tank of 60 l contents (height 45 cm, diameter 50 cm). The tank is then filled with a radioactive solution. The pipe can be moved in such a way that the cylindrical tank can be divided into equally sized zones by the different positions of the neutron detector in each of these zones can be measured. This possibility is needed for testing the airtightness of the vessel of the method. (The measuring procedure is described). The method can be applied already with concentrations of 1-2 g/l .

Card 1/3

When the detector (GM-9) is used with a lead filter, the concentration can still be measured with a γ -background of 10^{10} counts equivalent/l. The condition of the solution has practically no influence on the neutron yield. If the concentration of nitric acid is changed from 1M in a solution to an 8M solution, the neutron yield is only 2% less. The presence of U^{235} and Pu^{239} in the solution has the following effect: if the uranium concentration is 100 g/l (natural isotope composition) the neutron yield increases 2.65 due to the fission neutrons, but it decreases simultaneously by 3% due to the moderation. Therefore the uranium concentration has no influence if the concentration of the uranium has not to be considered. A Plutonium concentration of 1 g/l increases the neutron yield by $\sim 10\%$. This factor has to be taken into consideration. The presence of light elements in the solution has to be examined can cause errors in the results. The presence of following concentrations increases the neutron yield by only $\text{Pu}^{239} = 0.02\text{ g/l}$, $\text{Al}^{27} = 1\text{ g/l}$, $\text{Na} = 0.42\text{ g/l}$. Special advantage of the developed method is that the measurement can be carried out in any desired distance from

the measured object and that the airtightness is not injured.
There are 3 figures and 2 Soviet references.

SUBMITTED: January 24, 1959

Card 2/3

21 (8)

AUTHORS:

Khabakhpashev, A. G., Tsenter, E. M.

SOV/48-23-7-21/31

TITLE:

The Angular Correlation of the γ -Radiation of Ne²¹
(Uglovaya korrelyatsiya γ -luchey Ne²¹)

PERIODICAL:

Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1959,
Vol 23, Nr 7, pp 883-886 (USSR)

ABSTRACT:

A solution of the nitrate of Po²¹⁰ in water enriched with the isotope O¹⁸ up to 24 % was used as a source for the investigation of the γ -radiation. The reaction O¹⁸ (α ,n)Ne²¹ is accompanied by an emission of γ -quanta with the energy of 0.35 and 1.38 Mev. The line with 0.35 Mev belongs to the first excited level of the Ne²¹-nuclei, and its intensity with respect to the neutron yield is 45 %, the line with 1.38 Mev belongs to the second excited level of the nuclei, and its intensity is 10 %. These data were obtained by a scintillation spectrometer. For measuring the angular correlation, a fast-slow coincidence circuit was used, the block scheme of which is shown in figure 1. The correlation function is then developed. This correlation function is first given in its general form,

Card 1/2

The Angular Correlation of the γ -Radiation of Ne²¹

SOV/48-23-7-21/31

and is then simplified by some assumptions on the angle between the crystal axis of the scintillation counter and the flying direction of the γ -quanta, and the dispersion angle, respectively, so that this function can be easily calculated. Finally, formula (7) gives the correlation function considering the weakening occurring in the analyzer. The data known hitherto and the results obtained lead to conclusions on the spin quantum numbers and on the transitions. To clarify the influence of the interaction of the magnetic momentum of the nucleus in the intermediate state with the shell electrons of the atom and the neighboring atoms on the results of the angular correlation, the life of the first excited level is measured and is indicated with 1.10^{10} sec. There are 1 figure and 5 references.

ASSOCIATION: Moskovskiy inzhenerno-fizicheskiy institut (Moscow Engineering Physics Institute for Engineers)

Card 2/2

Tsenter, E.M.

SEABORG, Glenn T.; KATZ Joseph J.; GAGARINSKIY, Yu.V. [translator]; TSENTER,
E.M. [translator]; NIKOLAYEV, A.V., professor, doktor khimicheskikh
nauk, redaktor; AHNOL'DOV, V.V., redaktor; CHAPOVALOV, V.I., tekhnicheskiy
redaktor.

[Actinide elements. Translated from the English] Aktinidy. Perevod
s angliyskogo IU.V.Gagarinskogo i E.M.TSentera. Pod red. A.V. Nike-
laeva. Moskva, Izd-vo inostrannoi lit-ry, 1955. 701 p. (MLRA 9:4)
(Radioactive substances)

Tsentek, E.M.

AUTHOR: OVECHKIN, V.V., TSEENTER, E.M. PA - 2314
TITLE: On K-Ionization on the Occasion of the α Decay of Po²¹⁰.
(O K-ionisatsii pri α -raspade Po²¹⁰, Russian).
PERIODICAL: Atomnaia Energia, 1957, Vol 2, Nr 3, pp 282 - 284 (U.S.S.R.).
Received: 4 / 1957 Reviewed: 5 / 1957

ABSTRACT: The authors again measured the coefficient of the interior conversion of γ -radiation of Po²¹⁰ and qualitatively estimated the form of energy distribution of ionization-K-electrons. The results thus obtained agree fully with the data computed by MIGDAL and confirm the existence of an interior K ionization in the case of the α -decay of Po²¹⁰.

Experimental part: The coefficient of the internal conversion $= N_e/N_{\gamma}$ of the 803 MeV- γ -quanta of polonium were essentially measured by means of a scintillation spectrometer (which is coupled with a special photomultiplier FEU-19 and a six-channel amplitude analyzer). The spectrum of the electrons of Po²¹⁰ found here is shown in form of a diagram; in its right part a peak with 25% half-width is distinctly discernible. The value of $N_e = (52 \pm 5)$ electrons per second was found for the quantity of the conversion electrons emitted per time unit by the polonium source.

According to the results of these measurements only $(10 \pm 3)\%$ of the roentgen quanta originate from the inner conversion of

Card 1/2

PA - 2314
On K-Ionization on the Occasion of the α Decay of Po²¹⁰.

γ -radiation. For the purpose of checking the origin of the remaining K-roentgen quanta due to ionization the authors measured the spectrum of the coinciding electrons. The corrected spectrum of the K-electrons of Po²¹⁰ is shown in form of a diagram. Within the energy domain of from 30 to 60 KeV investigated the number of the electrons coinciding with roentgen quanta decreases monotonously with increasing electron energy, which qualitatively agrees with the energy distribution for ionization-K-electrons computed by MIGDAL. The electrons registered are K-ionization electrons and not conversion electrons. There follow some other arguments in confirmation of this statement.

Comparison with the theory: MIGDAL's evaluation of the probability of K-ionization in the case of α -decay remains in force and is confirmed by experiments carried out by the authors.
(4 illustrations)

ASSOCIATION: Not given.

PRESENTED BY:

SUBMITTED: 15.8.1956

AVAILABLE: Library of Congress.

Card 2/2

TSEENTER, F.G., inzh.

Protective coatings and finishins of the heat insulation of
pipelines and equipment of electric power plants. Elek.sta. 34
no.2:84-85 F '63. (MIRA 16:4)

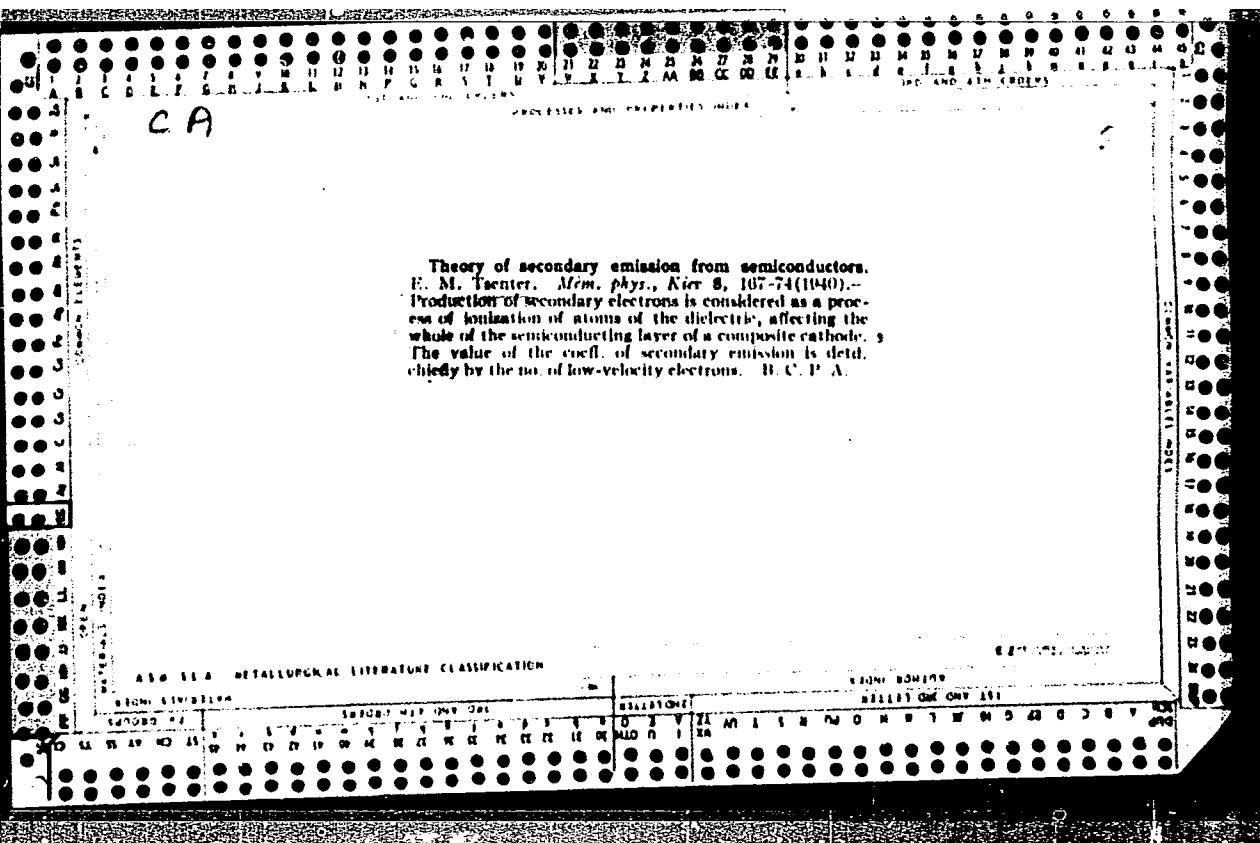
(Insulating materials) (Protective coatings)
(Electric power plants—Equipment and supplies)

TSENTER, F.G., inzh.

Improvement of thermal insulation at electric power stations.
Elek.sta. 31 no.7:16 J1 '60. (MIRA 13:8)
(Insulation (Heat))
(Electric power plants)

Electron distribution on crystal surfaces. P. M. Winter. *J. Käpl. Theoret. Phys.* (D. S. S. R.) 8, 182 (1958).--The self-consistent soln. for foreign atoms at chain ends or films on metals leads to considerable changes in the crystal energy levels. P. H. Rathmann

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757010002-8"



TSEENTER, I.Ya.

Goniometric studies of topazes. Zap.Vses.min.ob-va 91 no.5:615-
618 '62. (MIRA 15:11)
(Topaz) (Goniometry)

ACC NR: AP7012434

SOURCE CODE: UR/0419/000/003/0022/0028

AUTHOR: Kuchkayeva, I. K.; Rakhovskaya, S. M.; Klyukina, N. G.; Tsenter, L. A.; Shamina, I. S.

ORG: Saratov State University im. N. G. Chernyshevskiy (Saratovskiy gosudarstvennyy universitet)

TITLE: Absorption-structural properties of modified natural sorbents from the volga region

SOURCE: AN BSSR. Vestsi. Seriya khimichnykh nauk, no. 3, 1966, 22-28

TOPIC TAGS: mineral, adsorption, / Lower Volga region, Central Volga region

SUB CODE: 08,07

ABSTRACT: The Lower and Central Volga regions abound in natural sorbents such as diatomites, tripoli earths, opokas. In this connection the authors investigated the effect of calcining temperature on the adsorption properties of specimens of these minerals, which also were subjected to radiographic, chromatographic, and other tests. It was established that the applicability of these natural sorbents may be widened if they are subjected to proper types of treatment such as chemical activation with acids to increase pore volume and to increase the number of hydroxyl groups at the surface of the activated specimens. These hydroxyl groups are chemically active sites with respect to the adsorp-

Card 1/2

0732 1381

ACC NR: AP7012434

tion of polar substances such as methyl alcohol. Hydrophobic properties may be enhanced by adding ferric chloride as activator. Orig. art. has: 5 figures, 1 formula and 2 tables. [JPRS: 40,422]

2/2

TSEENTER, L.S., inzh.

Probability method for calculating time for the maintenance and repair
of cutting tools in automatic lines. Vest.mashinostr. 42 no.5:61-63
My '62. (MIRA 15:5)
(Metal-cutting tools--Maintenance and repair)

S/118/60/000/011/002/014
A161/A133

AUTHOR: Tsenter, L.S., Engineer

TITLE: Automatic machining lines for parts with repeating elements

PERIODICAL: Mekhanizatsiya i avtomatizatsiya proizvodstva, no. 11, 1960,
5-7

TEXT: The Minskiy zavod avtomaticheskikh liniy (The Minsk Automatic Machine Lines Plant) has developed special machining lines for Diesel locomotive collectors and textile machine spindle bars. The first LM-40 (LM-40) line (transfer machine) (Fig.3) is completed. The 15 hole-groups are machined in sequence in the collector being moved from left to right, starting with the first pass on the first position. Next it moves to the second position, and the first operation is performed on the second holes group, and the second operation on the first group. Then follows the third move, and the first operation on the third holes group, the second operation on the second holes group, and the third operation on the first group, and so on. Seven operations are performed with every of the 15 holes groups. The conveyor carrying the collectors moves in steps, and the tool heads start

Card 1/4

S/118/60/000/011/002/014
A 161/A133

Automatic machining lines for parts ...

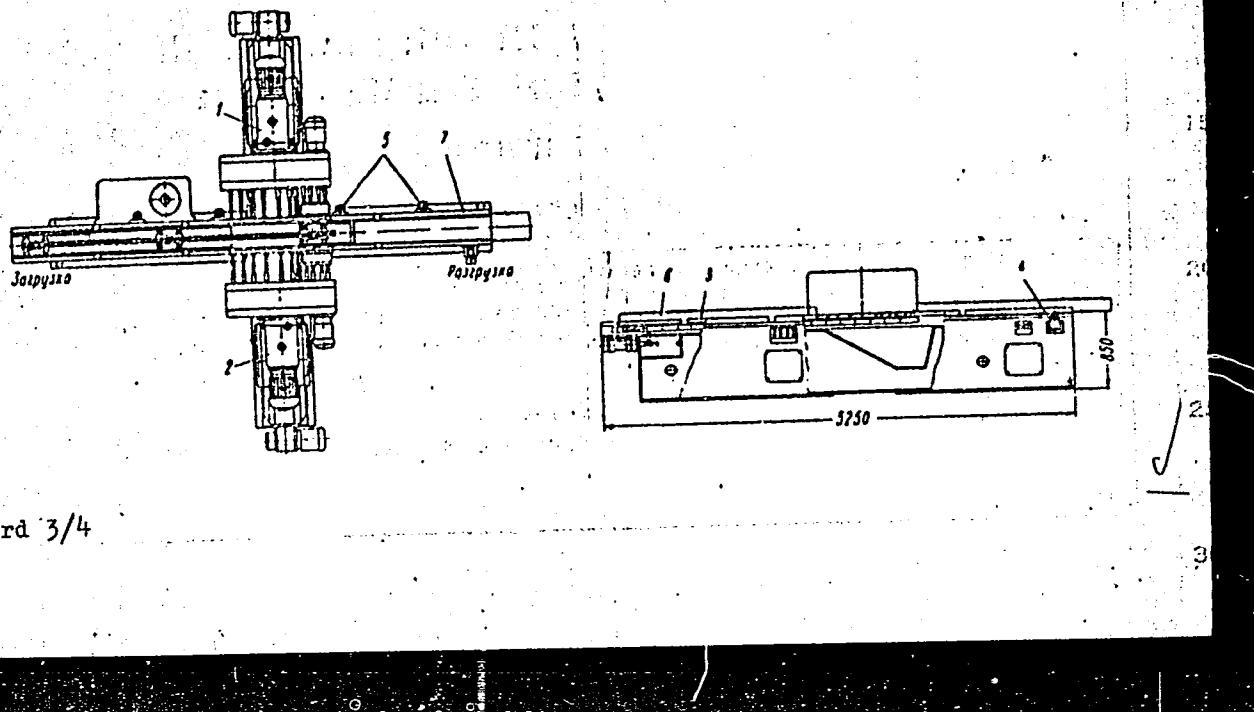
and stop operation in sequence. The entire operation cycle is automatic. The first operation is carried out without fixing, the second with fixing by one of the holes in the first group, and so on. The transfer machine is simple and all its major component elements are mounted on one base. The components are: power heads (1 and 2 in Fig.3) with eleven tool spindles in each; a rod conveyer (3), indexer (4) and clamping device (5). The collector (6) moves on bedways (7) with guide bushings. The drive is electro-hydraulic. The other transfer machine, for textile machine spindle bars (Fig.4), called JM -65 (LM-65), is produced in lots and has similar components (designation of Fig.3 apply). It is resettable for machining several different types and sizes of spindle bars. Transfer machines of this kind may be used for various parts with repeating elements. A satellite attachment for moving the workpiece would make them more versatile. There are 4 figures.

Card 2/4

s/118/60/000/011/002/014
A161/A133

Automatic machining lines for parts ...

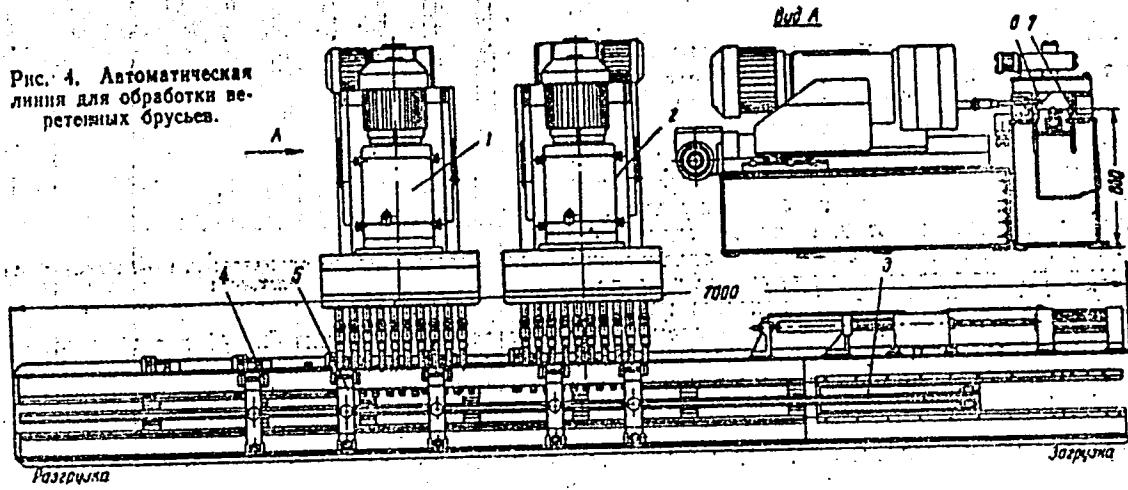
Fig. 3



S/118/60/000/011/002/014
A161/A133

Automatic machining lines for parts ...

Fig. 4



Card 4/4

TSEENTER, L. S., inzh.

Automatic lines for machining parts with recurring elements. Mekh. i
avtom. proizv. 14 no.11:5-7 N '60. (MIRA 13:11)
(Machinery, Automatic)

TENTER, LeS., inah.

Reliability of cutting tools of automatic lines. Nauka - praviz.
no.1:48-52 '63. (MIR 18:3)

KUDYANOV, A.V., inzh.; GORFINKEL', D.Ya., inzh.; TSEENTER, L.S., inzh.

Pneumatic removal of chips from machine-tools units and automatic
lines. Mash. Bel. no.2:60-64 '60. (MIRA 16:7)

(Machine tools) (Pneumatic machinery)

BR

ACCESSION NR: AP4020954

S/0051/64/016/003/0417/0423

AUTHOR: Tsenter, M.Ya.; Bobovich, Ya.S.

TITLE: Experimental investigation of the relation between the Raman and electronic absorption spectra of some compounds. 2. Frequency dependence of the Raman scattering intensity within the absorption band

SOURCE: Opticka i spectroskopiya, v.16, no.3, 1964, 417-423

TOPIC TAGS: Raman spectrum, Raman line intensity, Raman excitation, absorption spectrum, nitro compound, para-nitrosodimethylaniline

ABSTRACT: In an earlier study by the authors (Opt.i spektr., 14, 246, 1963) involving different nitro compounds it was found that the minimum distance between the peaks of the long wavelength absorption band and the exciting line (4358 \AA) was 4500 cm^{-1} . Shorter wavelength exciting radiation could not be used owing to the fact that it induced photochemical decomposition or polymerization of the investigated nitro compounds. Accordingly, for the present work for investigating Raman scattering under conditions of intrinsic (fundamental) absorption the authors chose para-nitrosodimethylaniline, which is radiation-stable and has an intense absorption band in the

Card 1/3

ACCESSION NR: AP4020954

region of the 4358 Å Hg line. In view of the fact that no good sources for Raman excitation with close but somewhat different frequencies are available, the location of the effective absorption band relative to the 4358 Å line was varied by using different binary solvent mixtures (carbon tetrachloride with chloroform, ortho-dichlorobenzene with toluene, toluene with chloroform, and ethyl alcohol with water). This made it possible to shift the absorption band peak of the para-nitrosodimethylaniline from 25 000 to 23 000 cm^{-1} , generally without change in its intensity and shape (the absorption peaks in the different pure solvents are shown in a figure). Employing a procedure similar to that used in the earlier study, there were investigated the vibrations of the nitroso group and the benzene ring with frequencies of 1410 and 1590 cm^{-1} as a function of the excitation frequency. The experimental intensity data are summarized in a table, and in a figure. It was found that the intensities of the nitroso group and benzene ring lines attain a maximum value at the same excitation frequency, which is close to the frequency of the purely electronic (zero-zero) transition in the investigated molecules. With shift into the absorption band the intensity of the vibrations of the benzene ring increases more rapidly than the intensity of the vibrations of the nitroso group. Contrary to the assertions of some molecular spectroscopists, the present and earlier data for the nitro compounds indicate that the intensity of the Raman scattering is not necessa-

Card 2/3

ACCESSION NR: AP4020954

rily proportional to the magnitude of the absorption coefficient at the exciting line. "The authors are grateful to B.S.Neporent and N.G.Bakhshiyev for discussion of the results." Orig.art.has: 1 formula, 4 figures, and 1 table.

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3/3
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TSEENTER, M.Ya.; BOBOVICH, Ya.S.

Experimental study of the relation between the Raman scattering
and electron absorption spectra of certain compounds. Opt. i
spektr. 16 no.2:246-255 F '64. (MIRA 17:4)

Tsenter, M.Ya.

USSR/Optics - Physical Optics

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Abs Jour : Referat Zhur - Fizika, No 5, 1957, 12935

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Title : Investigation of the Scintillation of the Flash Flareup
Curve for the Glow of the ZnS-Mn Phosphors.

Orig Pub : Optika i spektroskopiya, 1956, 1, No 5, 719-728

Abstract : A new procedure is proposed for the investigation of the
flash flareup and attenuation of luminescence, based on
the application of a one-shot light modulator (magneto-
electric gate, controlled by an electronic circuit).
With the aid of this modulator, an investigation was ma-
de of the flash flareup of a series of ZnS-Mn phosphors.

Card 1/2